

Chapter 16 Resource operations management guidelines

370 Scope of Chapter 16

This chapter sets out requirements for the chief executive to prepare and decide resource operations management guidelines.

371 Resource operations management guidelines for management areas

- (1) The chief executive must prepare resource operations management guidelines to provide operational procedures for the management of water in—
 - (a) the Upper Condamine Water Management Area;
 - (b) the Condamine and Balonne Water Management Area; and
 - (c) the Condamine and Balonne Tributaries Water Management Area.
- (2) These guidelines may include procedures for—
 - (a) announcing the taking of unsupplemented water;
 - (b) management of waterholes; and
 - (c) any other matters that the chief executive may wish to consider.

372 Deciding the resource operations management guidelines

- (1) In deciding the procedures in the guidelines, the chief executive must have regard to—
 - (a) existing water sharing arrangements; and
 - (b) advice from any group set up for the purpose of advising the Minister or the department on water management.
- (2) The guidelines must be consistent with the objectives and provisions of the *Water Resource (Condamine and Balonne) Plan 2004* and this plan.

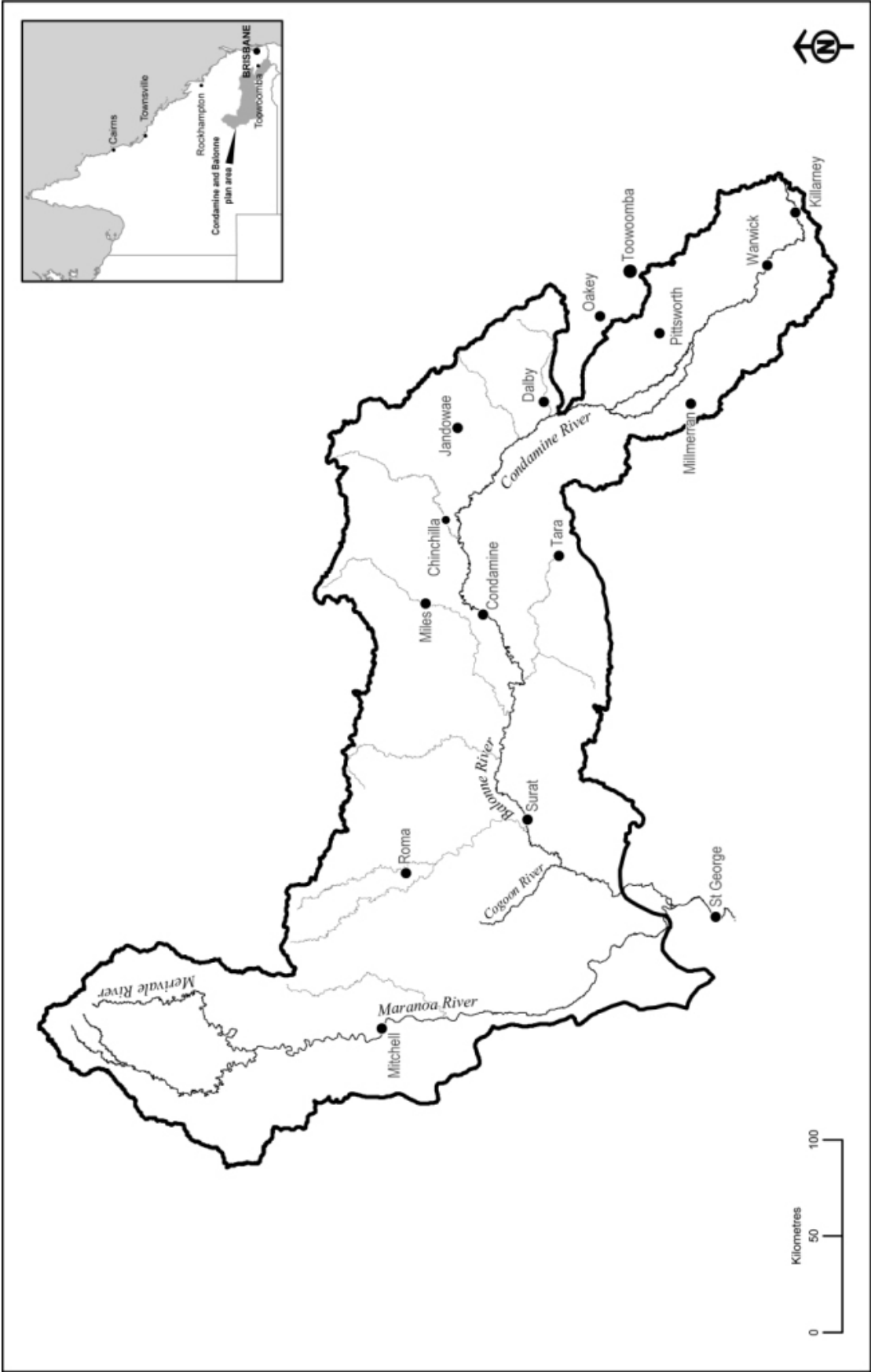
Attachment 1—Dictionary

Term	Definition
the Act	The <i>Water Act 2000</i> (Qld)
Administrative Plan	Administrative Plan means a plan illustrating parcels of land or other features on the land, for instance the footprint of existing storage works. Water entitlements may refer to the Administrative Plan to display the land or other features rather than place lengthy text descriptions within the water entitlements conditions. These plans are held electronically in a register held by the Registrar of Water Allocations and may be changed subject to requirements in this plan.
AHD	The Australian height datum, which references to a level or height to a standard base level.
Antecedent conditions	The preceding climatic and hydrologic conditions that influence river flows—for example recent rainfall locally and in the broader catchment, recent flows in the river and condition of waterholes.
Assignee	The person or entity to whom an interest or right to water is being temporarily transferred to another entity (e.g. seasonally assigned).
Assignor	The person or entity that temporarily transfers an interest or right in water to an assignee (e.g. seasonal assignment).
Associated Storage	Is the storage works that is linked to a water entitlement by a condition that states water taken is to be stored only in the storage works described by a work reference number and a works footprint illustrated on the specified Administrative Plan.
Critical water supply arrangements	During periods of critical water shortage the critical water supply arrangements set out the operating rules by which water will be shared.
Discharge	Discharge is the rate at which a volume of water passes a point in a stream or pipeline per unit of time. This could be measured in litres per second (L/s), cubic metres per second (cumecs or m ³ /s) or in megalitres per day (ML/day).
EL	Elevation.
Ecological assets	Include a species, a group of species, a biological function, an ecosystem and a place of natural value.
Fish stranding	Means when fish are cut off from water usually on the bed or banks of a watercourse, on infrastructure such as spillways and causeways, or left isolated in small or shallow pools, from which they cannot return to deeper water. This also applies to other aquatic species such as platypus, turtles and any rare or threatened species.
Full supply volume	This is the volume in storage that corresponds to the full supply level.
Location	For a water allocation, means the zone and/or place (specified as an AMTD) from which water under the allocation can be taken
Management guideline	A document that specifies the details of operational arrangements for specified entitlements and/or a particular area.
Megalitre (ML)	One million litres.
Minimum operating level	This is the level below which water cannot be used to supply customers, either because there is insufficient hydraulic gradient or because of poor water quality and for environmental reasons.

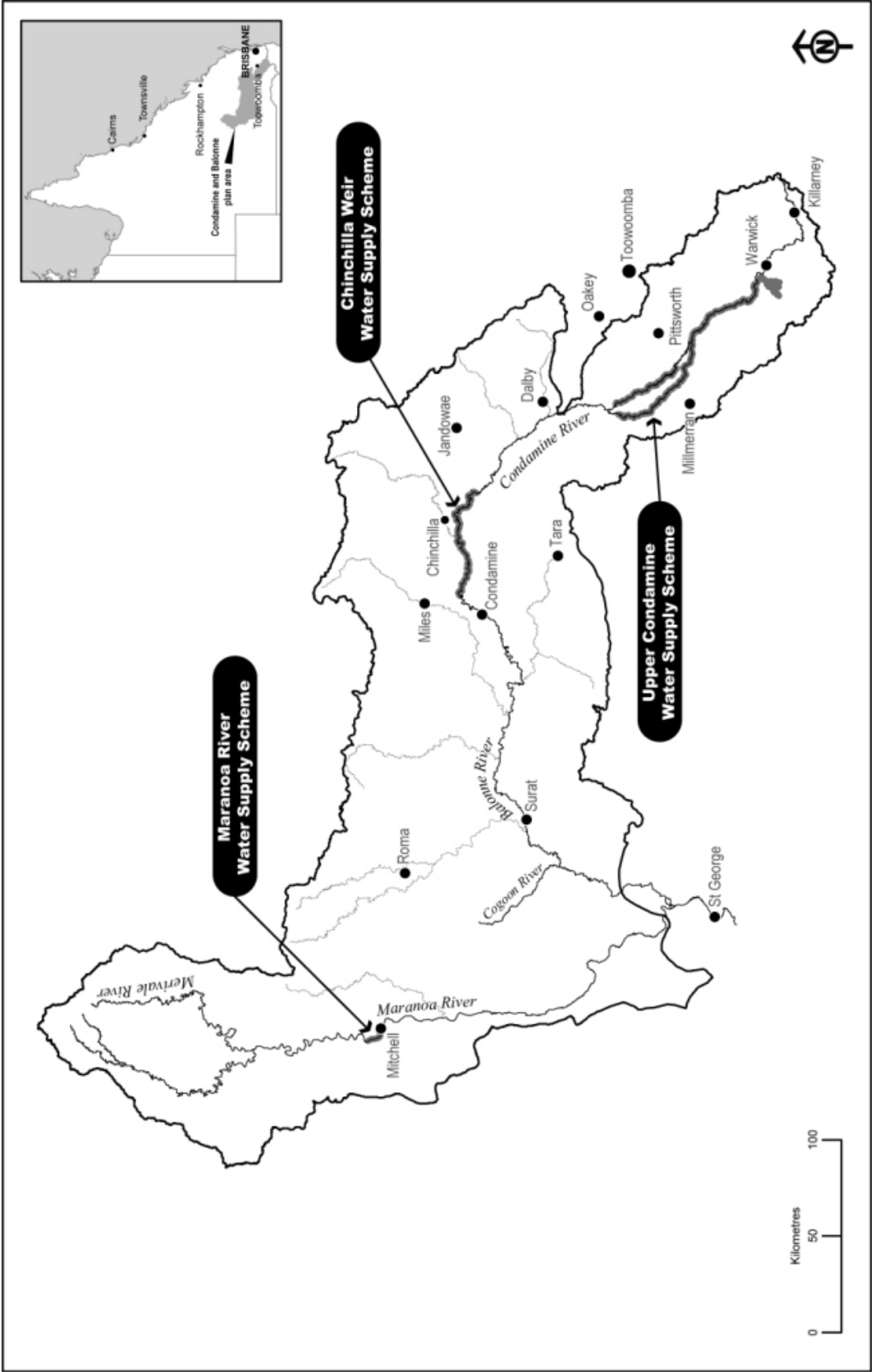
Condamine and Balonne Resource Operations Plan

Term	Definition
Minimum operating volume	This is the storage volume corresponding to the minimum operating level.
Multi-level inlet	An inlet arrangement on a dam or weir that allows stored water to be released downstream from selected levels below the stored water surface.
Passing flow	Means the flow in a watercourse defined by either litres per second, cubic metres per second, or megalitres per day, past a specified location.
Ponded area	Area inundated upstream of an impoundment structure.
Spills	Means overflows of water across a storage spillway.
Stream flow	Includes flow of water resulting from tributary inflows, and does not include release of supplemented water.
Storage factor	Provides for differences in the relative efficiencies of supply between different locations within a water supply scheme (see section 7).
Storage inflow derivation technique	A basic quantitative model that uses inflows from gauging stations combined with actual levels in scheme storages to determine the volume of inflow into a water supply scheme.
Valid change certificate	A certificate issued under section 129 of the <i>Water Act 2000</i> .
Water user	Water user means the holder of an authority to take water.
Water year	The water year for water managed under this plan is the 12 month period beginning 1 July and ending 30 June.
Works footprint	means an illustration of the position of an on farm water storage shown on an Administrative Plan.

Attachment 2—Plan Area



Attachment 3—Water Supply Schemes (supplemented water)



Attachment 3(A)—Scheme details for the Upper Condamine Water Supply Scheme

Table 1—Use of watercourses for distribution and storage

Location	AMTD (km)
Sandy Creek – from the upstream extent of the ponded area of Leslie Dam to the confluence with the Condamine River	20.0 – 0.0 km
Condamine River – from the confluence with Sandy Creek to Cecil Plains Weir	1077.8 – 891.1 km
North Branch Condamine River – from the Yarramalong Diversion pipeline outlet to the end of the supplemented section	97.0 – 10.0 km

Infrastructure associated with the Upper Condamine Water Supply Scheme

Table 2—Leslie Dam – Sandy Creek at – AMTD 8.40 km

Description of water infrastructure	
Description	Mass concrete gravity dam
Full supply level	EL 472.41 m AHD
Minimum operating level	EL 453.66m AHD
Saddle dam(s)	One earthfill dam with riprap facing, crest at EL 476 m AHD, length 366 m
Fabridam	Nil
Gates	7 steel radial gates
Storage volume and surface area	
Full supply volume	106 200 ML
Minimum operating volume	2130 ML (volume below the level of the river outlet works at EL 453.66 m). As part of a drought response, the storage may be drawn down to 220 ML (volume below the minimum operating level for the town water supply of EL 448.44 m AHD)
Storage curves/tables	Drawing number: A3-205134&5
Spillway arrangement	
Description of works	Ogee crest which is equipped with 7 steel radial gates
Spillwayl	466.31 m AHD
Spillway width	7 radial gates are 6.64 m high x 12.74 m wide and are hydraulically activated.
Discharge characteristics	Maximum spillway flow/no flow control by gates (before overtopping of dam commences) at 473.63 m AHD is approximately 3920 m ³ /s. Reference: Leslie Dam EAP Jan 2006.

River inlet/outlet works and diversion works	
Description of works	<p>Outlet works:</p> <p>River outlet with two 914 mm diameter outlet pipes. Each is equipped with a 914 mm gate valve and a 762 mm regulating valve. One 300 mm diameter outlet pipe (branch line from 914 mm outlet pipes), equipped with two 300 mm gate valves and a 300 mm regulating valve.</p> <p>Town water supply outlet: One 685 mm diameter pipe delivers water to a manifold pipe where the Warwick Shire Council has pump suction located.</p> <p>A 300 mm diameter pipe line branches from the outlet pipe.</p> <p>Trash screens on inlet works for river outlet and for town water supply outlet.</p>
Multi-level off-takes	<p>River outlet: two single level 914 mm off-takes MS pipes with bellmouths. Inlets are protected with concrete baulks and trash screens. A bulkhead gate is used to isolate outlet pipes for maintenance purposes. A trash screen is located in front of the outlet where water is being drawn</p> <p>Town Water Supply Outlet: Multi-level outlet structure. A bulkhead gate is used to isolate the desired outlet for maintenance purposes. A trash screen is located in front of the outlet where water is drawn from.</p>
Cease-to-flow levels	<p>River outlet invert: EL 453.98 m AHD</p> <p>Town water supply outlet invert: EL 448.44 m AHD</p>
Discharge characteristics	<p>The estimated maximum discharge capacity of Leslie Dam outlet works is 960 ML/d.</p> <p>Drawing number: A3-64043</p> <p>Town water supply maximum discharge: dependent on pumping capacity maintained by Warwick City Council</p>
Fish transfer system	
Description of works	Nil

Table 3—Talgai Weir – Condamine River at – AMTD 1029.30 km

Description of water infrastructure	
Description	Minimum energy weir
Full supply level	EL 412.07 m AHD
Minimum operating level	EL 408.09 m AHD
Saddle dam(s)	Nil
Fabridam	Nil
Gates	Nil
Storage volume and surface area	
Full supply volume	640 ML
Minimum operating volume	93 ML
Storage curves/tables	Drawing number: 59766
Spillway arrangement	
Description of works	Concrete faced earthfill
Spillway level	EL 412.00 m AHD
Spillway width	44 m
Discharge characteristics	HYDSYS rating table #2 for GS 422340 (Talgai Weir headwater gauge)
River inlet/outlet works and diversion works:	
Description of works	Outlet works consist of a 1650 mm diameter pipe and 1200 mm square penstock control gate. Trash screens on inlet structure control gate - 1200 mm square penstock gate.
Multi-level off-takes	Single level intake.
Cease-to-flow levels	Outlet structure sill: EL 408.03 m AHD Outlet Pipe Invert: EL 407.87 m AHD Inlet box sill: EL 408.07 m AHD
Discharge characteristics	The estimated maximum discharge capacity of Talgai Weir outlet works is 740 ML/d. Drawing number: 222351
Fish transfer system	
Description of works	Nil

Table 4—Yarramalong Weir – Condamine River at AMTD 966.20 km

Description of water infrastructure	
Description	Sheet piling weir
Full supply level	EL 381.00 m AHD
Minimum Operating Level	EL 378.72 m AHD
Saddle dam(s)	Nil
Fabridam	Nil
Gates	Nil
Storage volume and surface area	
Full supply volume	390 ML
Minimum operating volume	28 ML (volume below level of outlet works at EL 378.72 m AHD)
Storage curves/tables	Drawing number: 85367
Spillway arrangement	
Description of works	3 rows of steel sheet piling
Spillway level	Crest 381.00 m AHD
Spillway width	73.20 m
Discharge characteristics	HYDSYS rating table #5 for GS 422353 (Yarramalong Weir tailwater rating)
River inlet/outlet works and diversion works	
Description of works	A 1650 mm diameter outlet pipe. Control is provided by a 1067 mm square penstock control gate. Trash screens on inlet structure are integrated into the Yarramalong Pump Station.
Multi-level off-takes	Single level intake structure
Cease-to-flow levels	EL 378.5 m AHD
Discharge characteristics	The estimated maximum discharge capacity of Yarramalong Weir outlet works is 560 ML/d. Drawing number: 222352
Fish transfer system	
Description of works	Nil

Table 5—Lemon Tree Weir – Condamine River at AMTD 943.4 km

Description of water infrastructure	
Description	Minimum energy weir
Full supply level	EL 370.01 m AHD
Minimum operating level	EL 365.94 m AHD
Saddle dam(s)	Nil
Fabridam	Nil
Gates	Nil
Storage volume and surface area	
Full supply volume	300 ML
Minimum operating volume	85 ML
Storage curves/tables	Drawing number: 216375
Spillway arrangement	
Description of works	Concrete-faced earthfill
Spillway level	Crest EL 370.01 m AHD
Spillway width	43.6 m
Discharge characteristics	HYDSYS rating table #4 for GS 422349 (Lemon Tree Weir headwater gauge)
River inlet/outlet works and diversion works:	
Description of works	A 1650 mm diameter outlet pipe. Control is provided by a 1067 mm square penstock control gate. Trash screens on inlet structure.
Multi-level off-takes	Single level intake structure. Inlet structure is 3.00 m wide x 3.58 m long x 5.05 m high
Cease-to-flow levels	El. 365.94 m AHD
Discharge characteristics	The estimated maximum discharge capacity of Lemon Tree Weir outlet works is 830 ML/d. Drawing number: 222353
Fish Transfer System	
Description of works	Nil

Table 6—Cecil Plains Weir – Condamine River at AMTD 891.1 km

Description of water infrastructure	
Description	Mass concrete weir
Full supply level	EL 350.87 m AHD
Minimum operating level	EL 347.67 m AHD
Saddle dam(s)	Nil
Fabridam	Nil

Description of water infrastructure	
Gates	Nil
Storage volume and surface area	
Full supply volume	700 ML
Minimum operating volume	49 ML (volume below the level of the outlet works at EL 347.67 m AHD)
Storage curves/tables	Drawing number: 28359
Spillway arrangement	
Description of works	Central ogee profile spillway section.
Spillway level	Crest 350.87 m AHD
Spillway width	23.77 m
Discharge characteristics	HYDSYS rating table #51 for GS 422316 (Cecil Plains Weir headwater gauge)
River inlet/outlet works and diversion works	
Description of works	305mm pipe and gate valve. (Not operational at the commencement of the resource operations plan.)
Multi-level off-takes	Single level off-take with direct intake
Cease-to-flow levels	Spillway crest: EL 350.87 m AHD Pipe Invert: EL 347.67 m AHD
Discharge characteristics	0 ML/d (outlet blanked off)
Fish transfer system	
Description of works	Nil

Table 7—Melrose Weir – Condamine River North Branch at AMTD 50.0 km

Description of water infrastructure	
Description	Earth overshoot weir
Full supply level	EL 370.75 m AHD
Minimum operating level	EL 369.2 m AHD
Saddle dam(s)	Nil
Fabridam	Nil
Gates	Nil
Storage volume and surface area	
Full supply volume	160 ML
Minimum operating volume	20 ML
Storage curves/tables	Drawing number: 125153
Spillway arrangement	
Description of works	Concrete central overflow section.

Description of water infrastructure	
Spillway level	EL 370.75 m AHD
Spillway width	270 m
Discharge characteristics	Not available
River inlet/outlet works and diversion works	
Description of works	A 1650 mm outlet pipe and outlet structure. Outlet Structure – 1800 diameter pipe x 2.4 m long, set vertically. Control is provided by a 1200 mm penstock gate. Trash screens on inlet structure.
Multi-level off-takes	Single level intake structure, which is 2.0 m wide x 5.8 m long x 3.5 m high with 1200 mm penstock gate.
Cease-to-flow levels	EL 369.2 m AHD (for the inlet structure).
Discharge characteristics	346 ML/d (4 m ³ /s)
Fish transfer system	
Description of works	Nil

Table 8—Wando Weir – Condamine River North Branch at AMTD 37.0 km

Description of water infrastructure	
Description	Earth overshoot weir
Full supply level	EL 365.72 m AHD
Minimum operating level	EL 364.00 m AHD
Saddle dam(s)	Nil
Fabridam	Nil
Gates	Nil
Storage volume and surface area	
Full supply volume	310 ML
Minimum operating volume	30 ML
Storage curves/tables	Drawing number: 126924
Spillway arrangement	
Description of works	Rock fill mattress central overflow section.
Spillway level	Crest 365.72 m AHD
Spillway width	40 m
Discharge characteristics	Not available

River inlet/outlet works and diversion works	
Description of works	A 1200 mm outlet pipe equipped with a 1200 mm penstock regulating gate fitted to the inlet structure. Outlet structure – 1650 diameter pipe x 2.4 m long, set vertically. Intake structure is 2.0 m wide x 5.8 m long x 3.5 m high with 1200 mm penstock gate. Trash screens on inlet structure.
Multi-level off-takes	Single level intake structure
Cease-to-flow levels	Sill: EL 364.0m AHD Invert: EL 363.0m AHD
Discharge characteristics	Approximately 346 ML/d
Fish transfer system	
Description of works	Nil

Table 9—Nangwee Weir – Condamine River North Branch at AMTD 17.0 km

Description of water infrastructure	
Description	Concrete-faced earthfill weir
Full supply level	EL 357.00 m AHD
Minimum operating level	EL 355.7 m AHD
Saddle dam(s)	Nil
Fabridam	Nil
Gates	Nil
Storage volume and surface area	
Full supply volume	80 ML
Minimum operating volume	10 ML
Storage curves/tables	Drawing number: 125342
Spillway arrangement	
Description of works	Concrete-faced earthfill.
Spillway level	Crest 357.00 m AHD
Spillway width	50 m
Discharge characteristics	Not available
River inlet/outlet works and diversion works	
Description of works	Outlet works includes 4 x 525 mm RC pipes discharging directly into river channel. Reinforced concrete intake structure, which is 4.6 m wide x 1.5 m deep x 1.4 m high with 1.06 m x 1.40 m penstock gate. Trash screens on inlet structure.
Multi-level off-takes	Single level intake structure

Description of water infrastructure	
Cease-to-flow levels	EL 355.7 m AHD
Discharge characteristics	Approximately 200 ML/day
Fish transfer system	
Description of works	Nil

Table 10—Yarramalong Pump Station

Infrastructure	
Description	Pumping station located on the right bank of the Condamine River and diversion to North Branch
Diversion rate	
Maximum diversion rate	346 ML/day